

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

REC'D 23 FEB 2005  
WIPO PCT

Applicant's or agent's file reference <b>030337WO</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/US2004/021530</b>	International filing date ( <i>day/month/year</i> ) <b>1 July 2004</b>	Priority date ( <i>day/month/year</i> ) <b>7 July 2003</b>
International Patent Classification (IPC) or national classification and IPC  <div style="text-align: center;"> INT. CL.     <b>H04L 29/06 (2006.01)</b>     <b>H04L 12/56 (2006.01)</b>     <b>H04N 7/16 (2006.01)</b>   AND US CLASS 726/27, 380/044 </div>		
Applicant <b>QUALCOMM INCORPORATED et al</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☐ (sent to the applicant and to the International Bureau) a total of     sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).  
☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))     , containing a sequence listing and/or table related thereto, in electronic readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input checked="" type="checkbox"/> | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand <b>7 February 2005</b>	Date of completion of this report <b>21 FEB 2006</b>
Name and mailing address of the IPEA/US  Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 FACSIMILE NO. 571-273-3201	Authorized Officer  <b>Blaine R. Copenheaver</b> Telephone No. 571-272-7774

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on:
- ☒ The international application in the language in which it was filed
- ☐ A translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3(a) and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages as originally filed/furnished
- pages\* received by this Authority on
- pages\* received by this Authority on
- ☐ the claims:
- pages as originally filed/furnished
- pages\* as amended (together with any statement) under Article 19
- pages\* received by this Authority on
- pages\* received by this Authority on
- ☐ the drawings:
- pages as originally filed/furnished
- pages\* received by this Authority on
- pages\* received by this Authority on
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US2004/021530

## Box No. II      Priority

1. ☒ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:  

☒ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).  
☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	3-7, 10-11, 14-17, 20, 21, 24-30, 33-36, 39-40, 43-47, 50-51, 54-57, 60, 61	YES
	Claims	1-2, 8-9, 12-13, 18-19, 22-23, 31-32, 37-38, 41-42, 48-49, 52-53, 58-59	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-61	NO
Industrial applicability (IA)	Claims	1-61	YES
	Claims	None	NO

**2. Citations and explanations (Rule 70.7)**

Reference is made to the following documents; the numbering will be adhered to in the rest of the procedure:

- D1: EP-A-1 001 570 (LUCENT TECHNOLOGIES INC) 17 May 2000 (2000-06-17)  
D2: AL-TAWIL K ET AL: "A new authentication protocol for roaming users in GSM". PROCEEDINGS IEEE INTERNATIONAL SYMPOSIUM ON COMPUTERS AND COMMUNICATION, XX, XX. 6 July 1999(1999-07-06), pages 93-99, XP0021 88055.

The present application does not meet the requirements of Articles 33(1)-(2) PCT, because the subject-matter of independent claims 1, 12, 22, 31, 41 and 52 is not new

Referring to the wording of claim 1 document D1 discloses:

a method of obtaining secure registration by a memory module (SIM module of mobile M in figure 5; SIM being implicitly disclosed, as document D1 relates to wireless communication systems e.g GSM or IS41; column 1 lines 7-9 and 53-55) in a multicast-broadcast-multimedia system (GSM or IS41 can be used also for multicast-broadcast-multimedia system), the method comprising:

- receiving a random number ( $R_T$ , at M, figure 5);
- generating a radio access network key ( $K_A$  at M, figure 5) as a function of the random number ( $R_T$  at M, figure 5) and a key of a public land mobile network ( $K_I$  shared between M and HLR in figure 5; column 5, lines 40-43; column 5, line 58- column 6, line 2).
- generating a temporary registration key as a function of the radio access network key (authentication response, figure 5; column 6, lines 5-8).
- generating a radio access network key ( $R_A$  at M, figure 5) as a function of the random number and a key selected from the group consisting of a public land mobile network key and a broadcast access key.

Therefore the subject-matter of claim 1 is not new.

The subject-matter of independent claims 22 and 41 is a representation of method claim 1 in terms of features of a memory module and a computer readable medium capable to performing the method steps. Therefore, the argumentation above applies mutatis mutandis also for these claims.

Continued in Supplemental Box.

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

Independent claim 12 is written in such a broad way, that it is not novel over the standard authentication procedure in GSM systems (see e.g. document D2, paragraph 3): a method of obtaining secure registration by a mobile station in a multicast-broadcast-multimedia system, the method comprising:

- receiving a random number from a radio access network (RAND received at mobile station. D2 paragraph 3);
- transmitting the random number to a memory module (RAND transmitted to SIM, D2, paragraph 3); and
- receiving from the memory module a temporary registration key based on the random number (receding SRS from SIM, D2, paragraph 3).

Furthermore it has to be stated that argumentation made in reference to claim 1 applies also mutatis mutandis for the subject-matter of Independent claim 12, as communication between SIM card and mobile terminal is implicitly disclosed in D1 (D1 relates to wireless communication systems e.g. GSM or IS41; column 1, lines 7-9 and 53-55).

The subject-matter of independent claims 31 and 52 is representation of method claim 12 in terms of features of a mobile station and a computer readable medium capable to performing the method steps. Therefore, the argumentation made in reference to claim 12 applies mutatis mutandis also for these claims.

Dependent claims 2-11, 13-21, 23-30, 32-40, 42-51 and 53-61 do not contain any additional features which, in combination with the features of any claim to which they refer meet the requirements of the Article 33(1) PCT in respect of novelty (Article 33(2) PCT) and/or inventive step (Article 33(3) PCT) for the reason that the subject-matter of said claims is either in principle directly derivable from the disclosure of the document D1 or represents simple design details which are generally known to the person skilled in the field of obtaining secure registration by a mobile station.

The additional features of using the identity module of mobile telephone is not new (D1, column 1 lines 7-9 and 53-55; D2, paragraph 3)). Thus the subject-matter of claims 2, 8-9, 13, 18-19, 23, 32, 37-38, 42, 48-49, 53 and 58-59 is not new.

The additional feature of claims 3-5, 14-15, 24-26, 33-34 and 43-45 of receiving a provisioning message from the authority providing the common key cannot be regarded as involving inventive step as it represents the well known measure in all authentication procedures.

The additional subject matter of other dependent claims contains only implementation details within the scope of the customary practice followed by persons skilled in the art, which are not inventive.